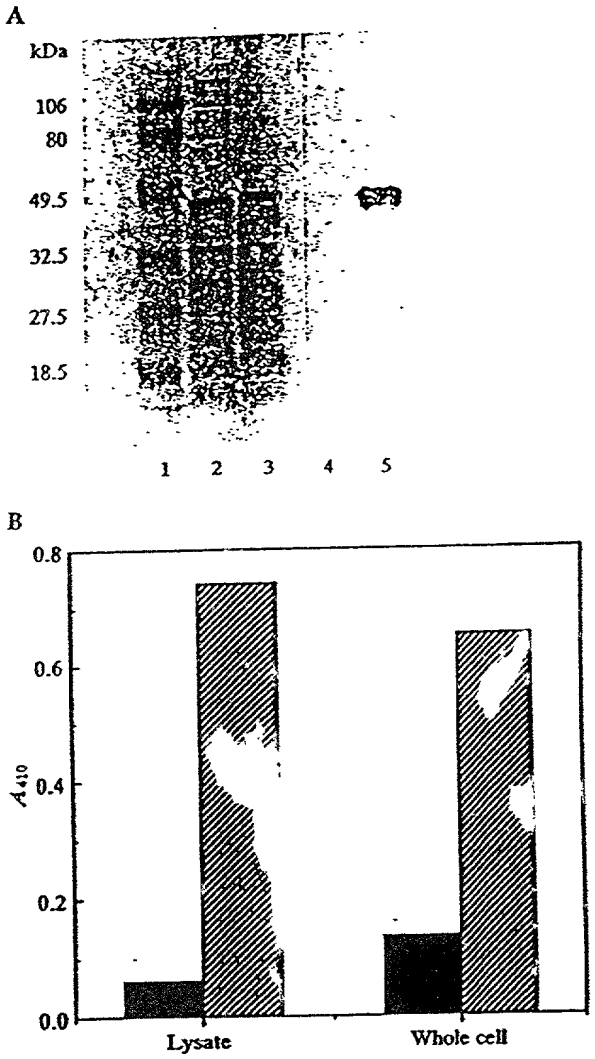

A
kDa
106
80
49.5
32.5
27.5
18.5
1 2 3 4 5
B
0.8
0.6
0.4
0.2
0.0
A_{410}
Lysate
Whole cell

FIG.1A-B

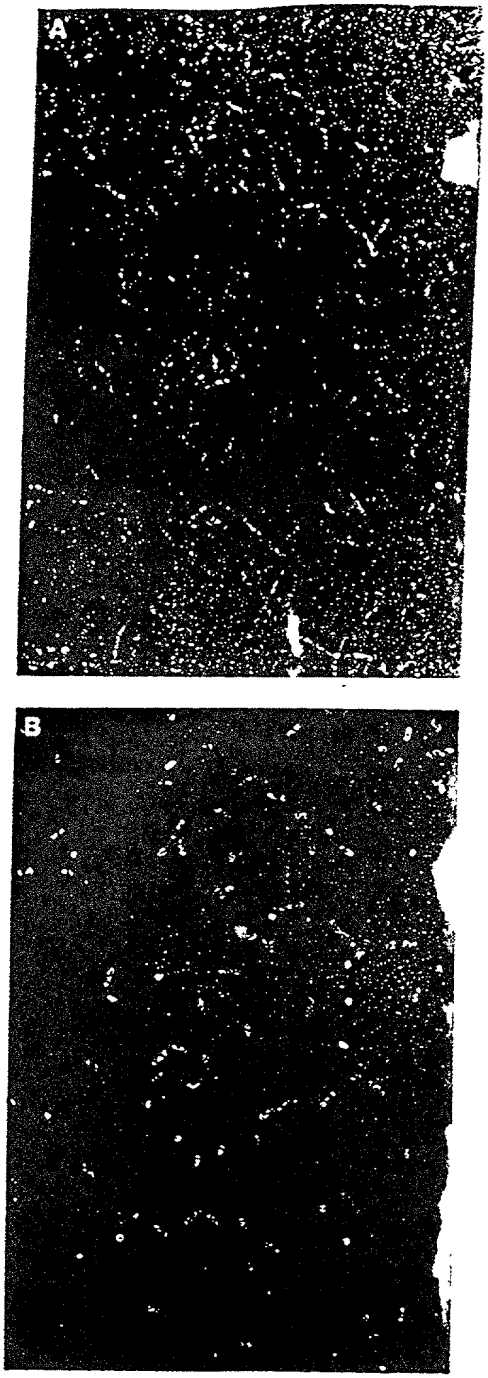


FIG. 2A-B

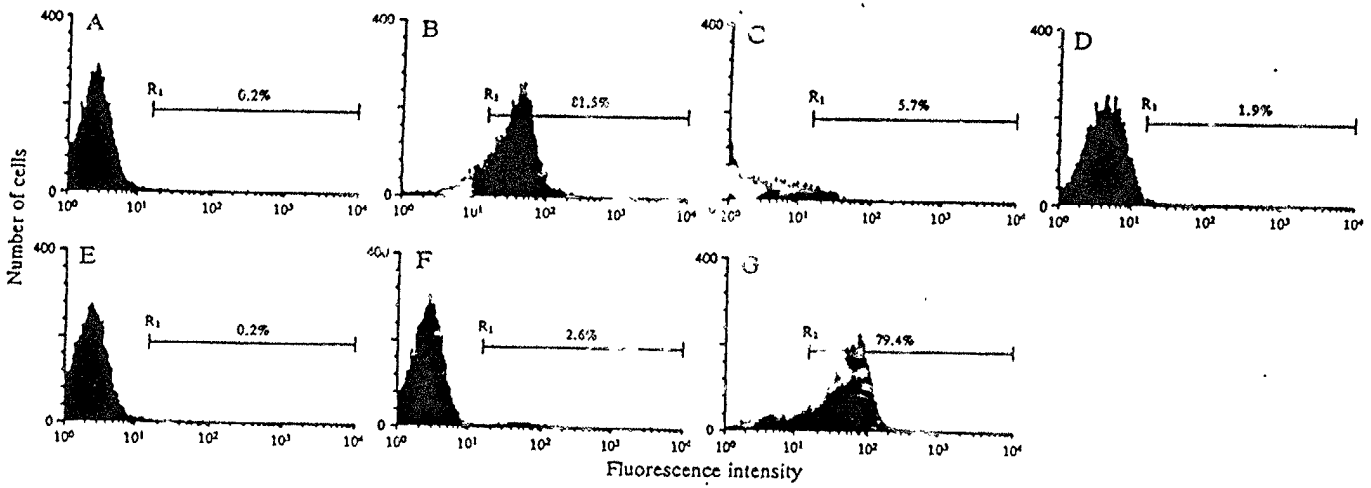

A
B
C
D
E
F
G
R1
0.2%
81.5%
5.7%
1.9%
0.2%
2.6%
79.4%
400
0
Number of cells
Fluorescence intensity

FIG. 3A-G

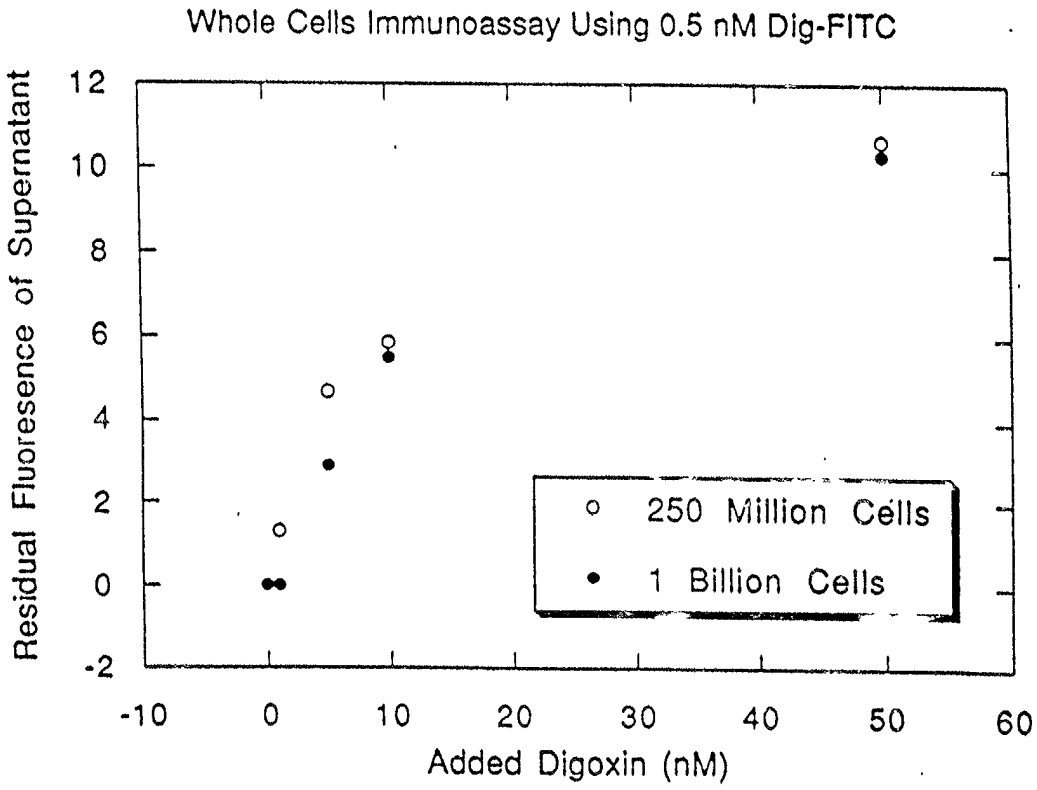
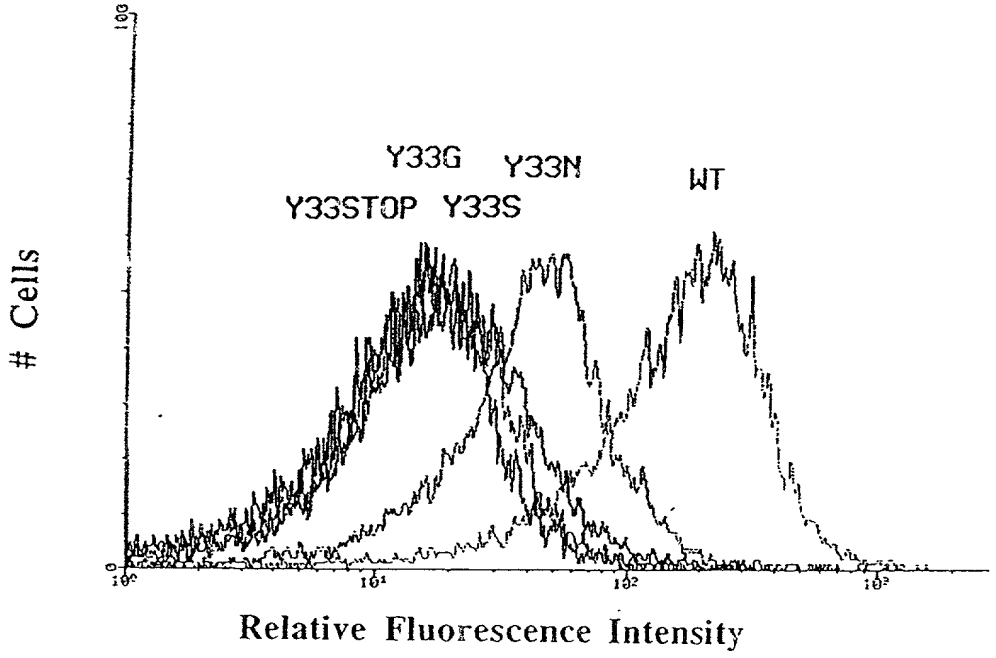

Whole Cells Immunoassay Using 0.5 nM Dig-FITC
Residual Fluoresence of Supernatant
12
10
8
6
4
2
0
-2
-10
0
10
20
30
40
50
60
Added Digoxin (nM)
250 Million Cells
1 Billion Cells

FIG. 4


log
Y33G
Y33N
WT
Y33STOP
Y33S
Cells
0
10^0
10^1
10^2
10^3
Relative Fluorescence Intensity

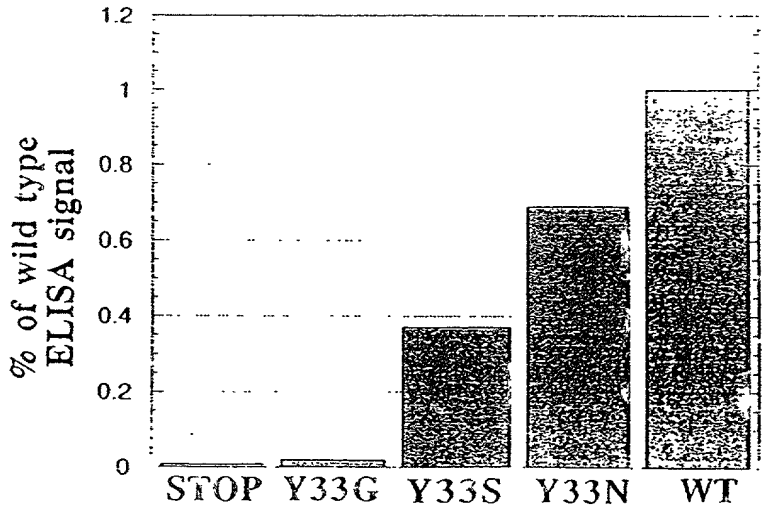
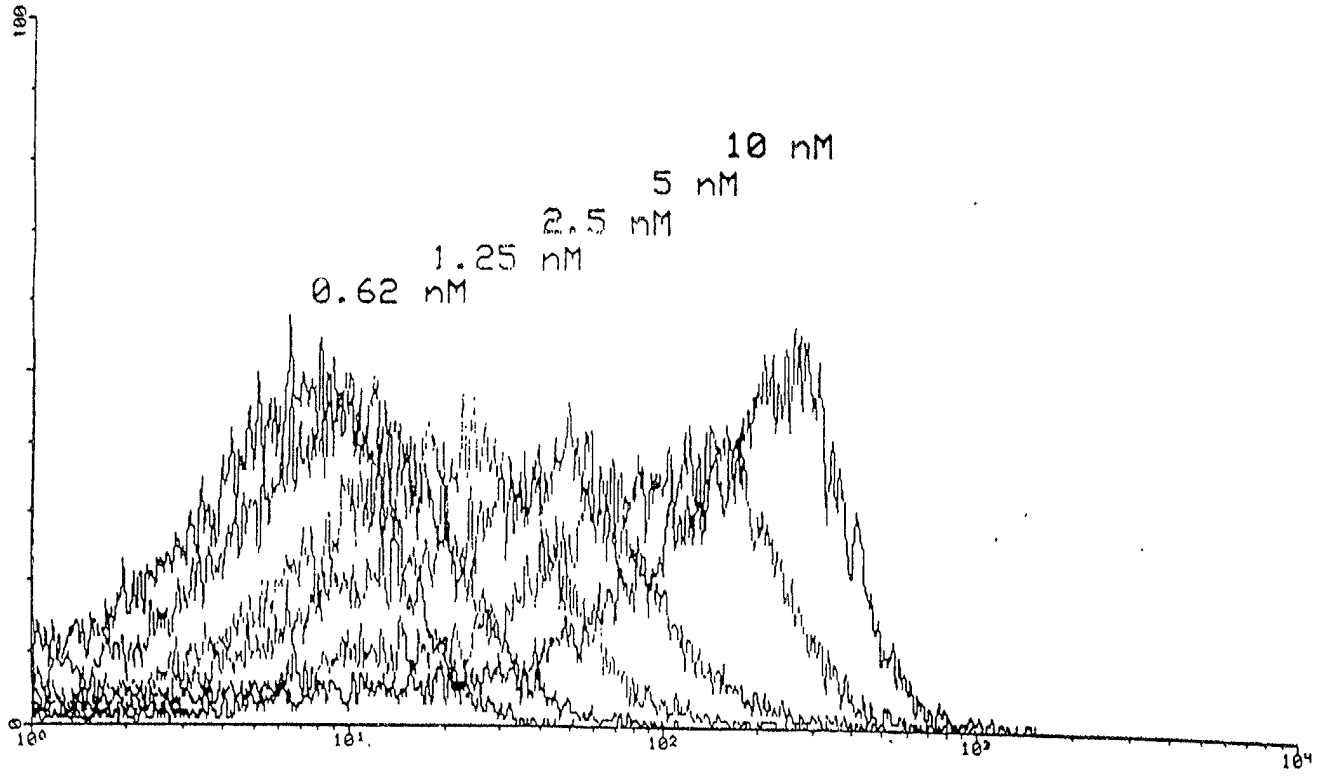

% of wild type
ELISA signal
1.2
1
0.8
0.6
0.4
0.2
0
STOP
Y33G
Y33S
Y33N
WT

FIG. 5A-B



Cells

Log (Relative Fluorescence)

FIG. 6A

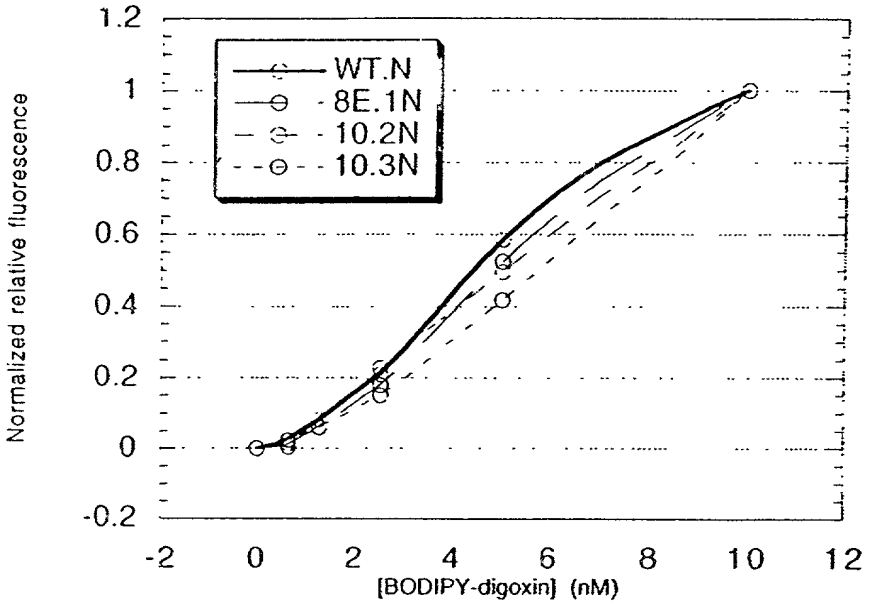

1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-2
0
2
4
6
8
10
12
WT.N
8E.1N
10.2N
10.3N
Normalized relative fluorescence
[BODIPY-digoxin] (nM)

FIG. 6B

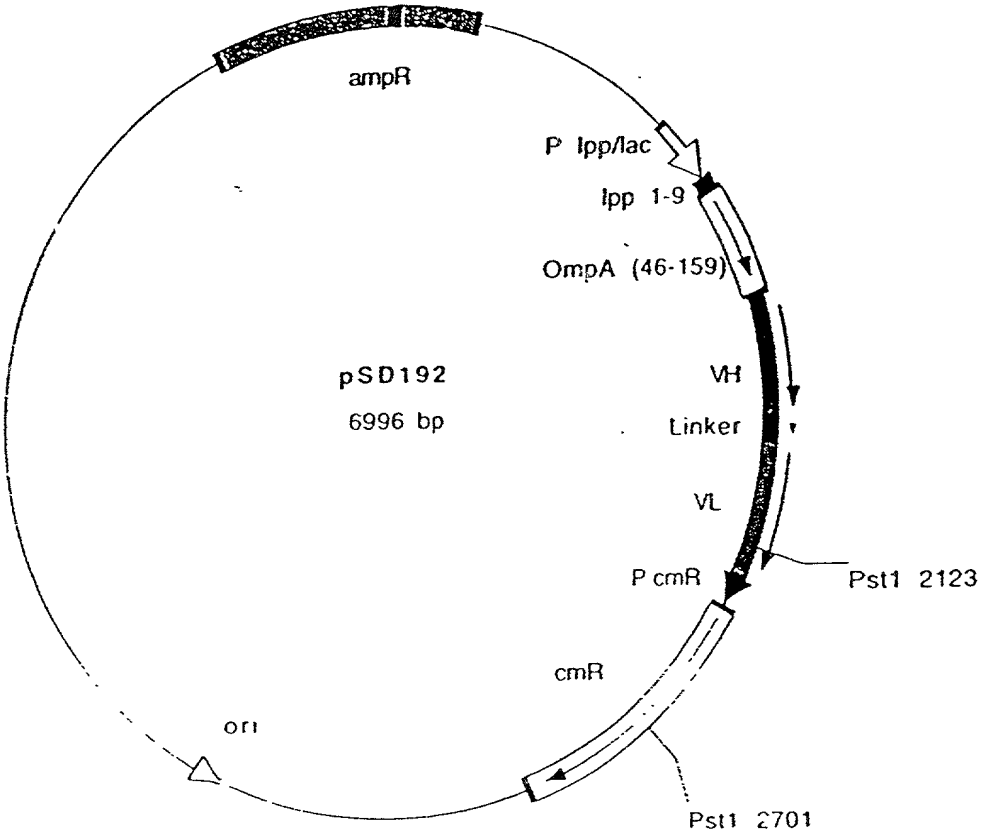
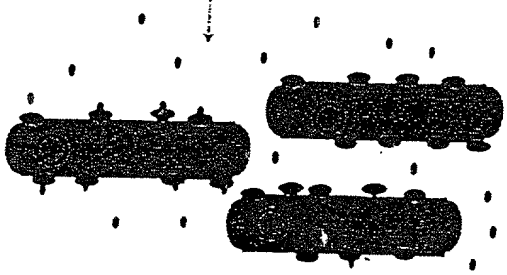

ampR
P lpp/lac
lpp 1-9
OmpA (46-159)
pSD192
6996 bp
VH
Linker
VL
P cmR
Pst1 2123
cmR
ori
Pst1 2701

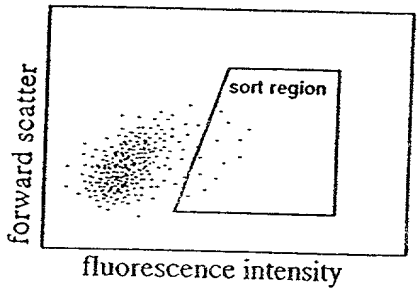
FIG. 7

1. transform plasmid scFv library and amplify by growth

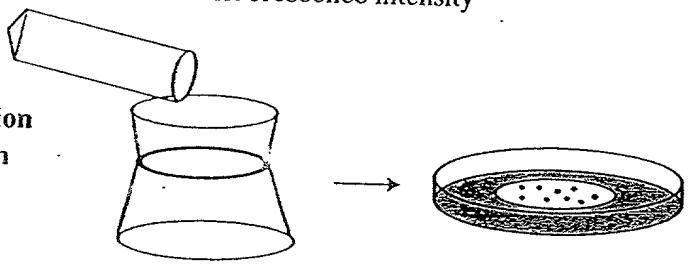
2. incubate antibody-expressing cells with fluorescently tagged antigen



3. sort high - fluorescence cells by FACS



4. collect sorted cells by filtration and amplify on an agar plate



5. assay colonies for high-affinity antigen binding by flow cytometry

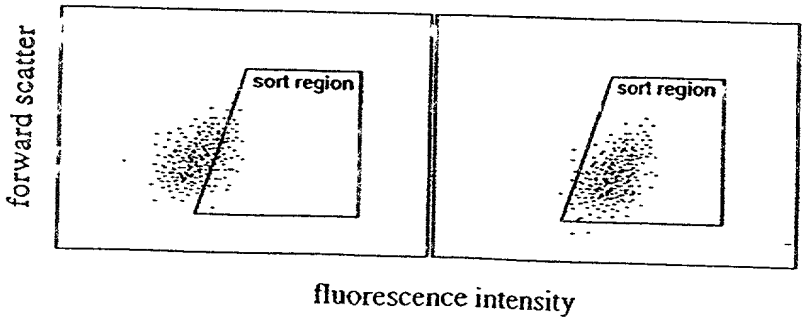


FIG. 8

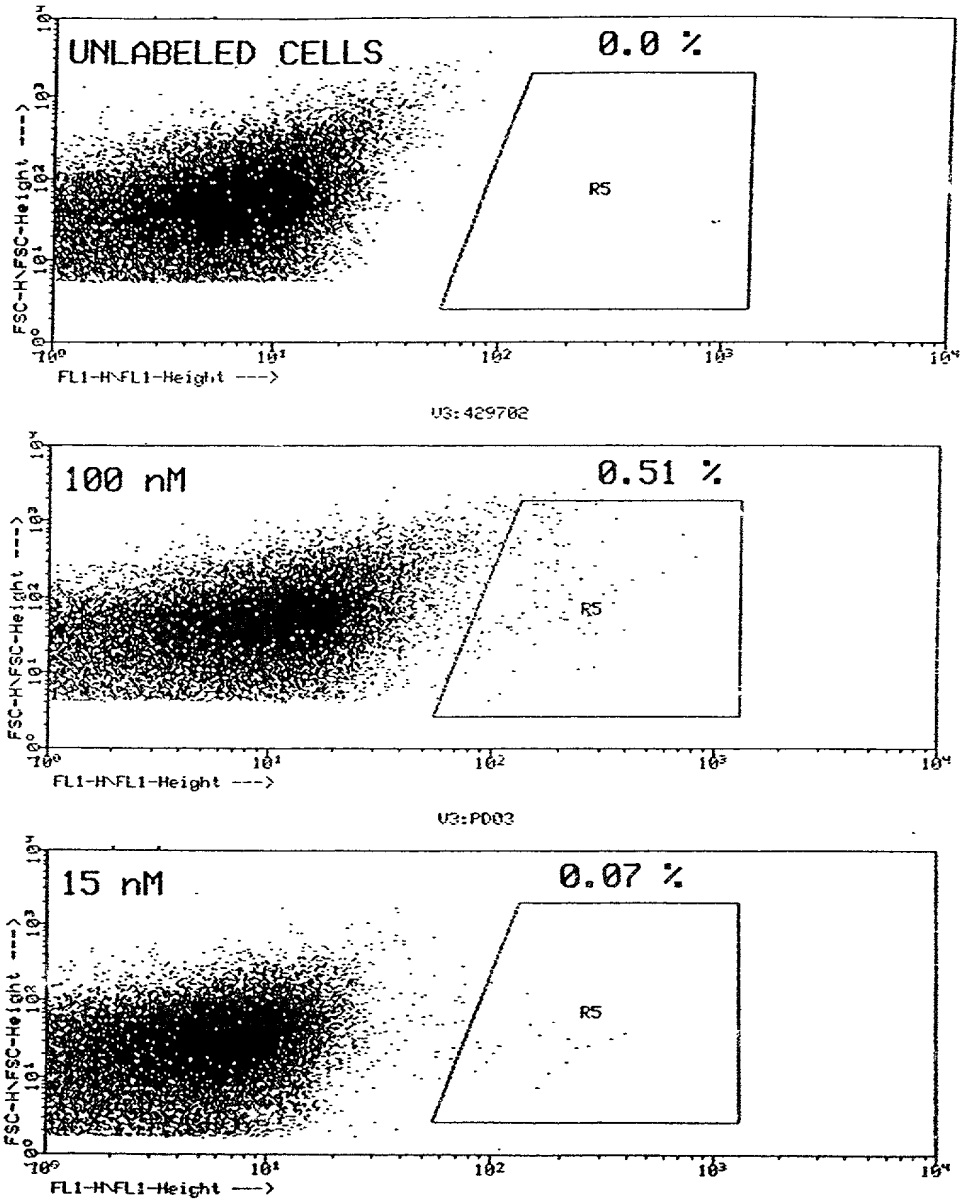

UNLABELED CELLS
0.0 %
R5
FSC-H\FSC-Height --->
FL1-H\FL1-Height --->
V3:429702
100 nM
0.51 %
R5
FSC-H\FSC-Height --->
FL1-H\FL1-Height --->
V3:P003
15 nM
0.07 %
R5
FSC-H\FSC-Height --->
FL1-H\FL1-Height --->

FIG. 9A-C

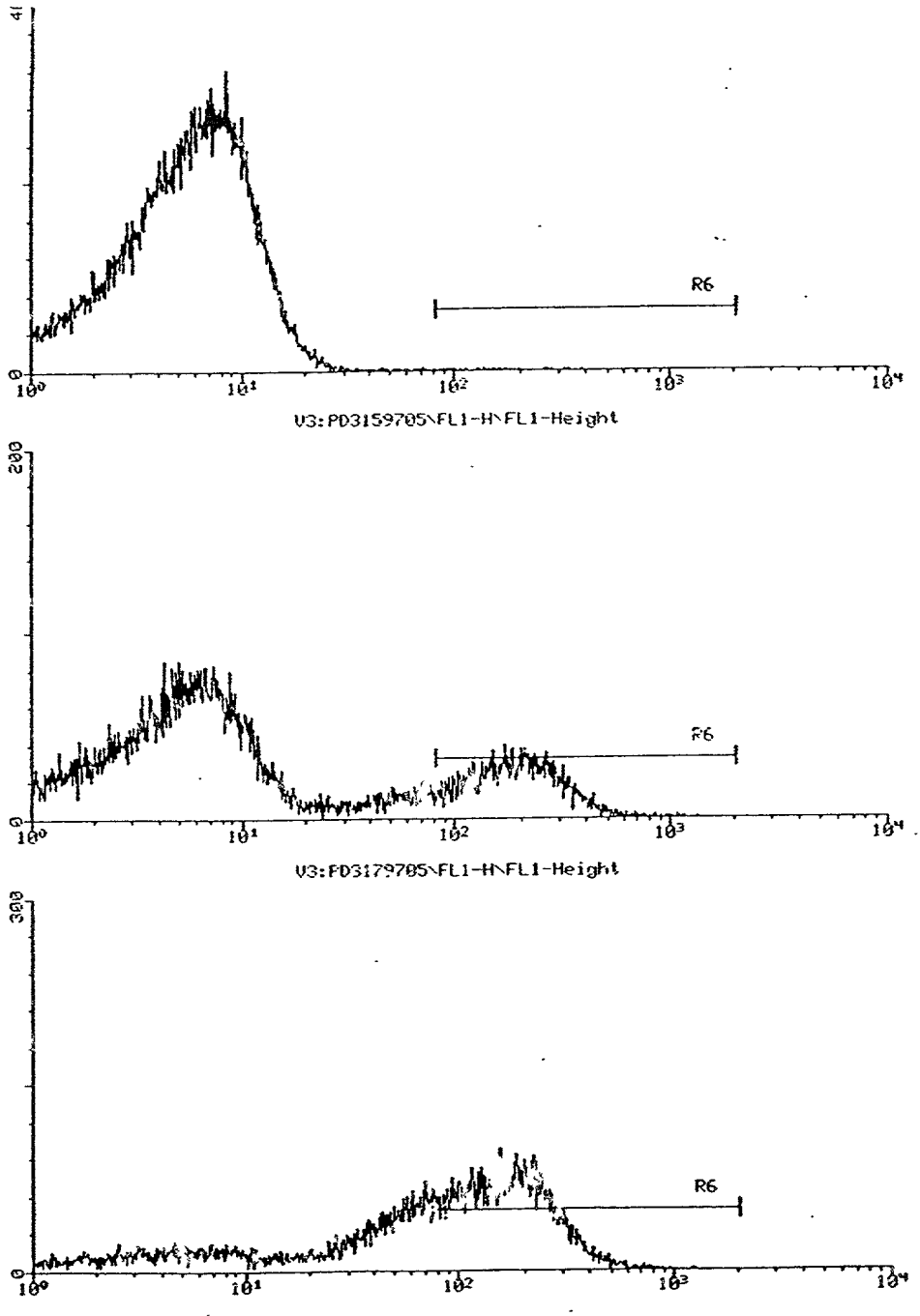

R6
V3:PD3159705\FL1-H\FL1-Height
R6
V3:PD3179705\FL1-H\FL1-Height
R6

FIG. 9D-F

TETRAMETHYLRHODAMINE-BODIPY SUBSTRATE

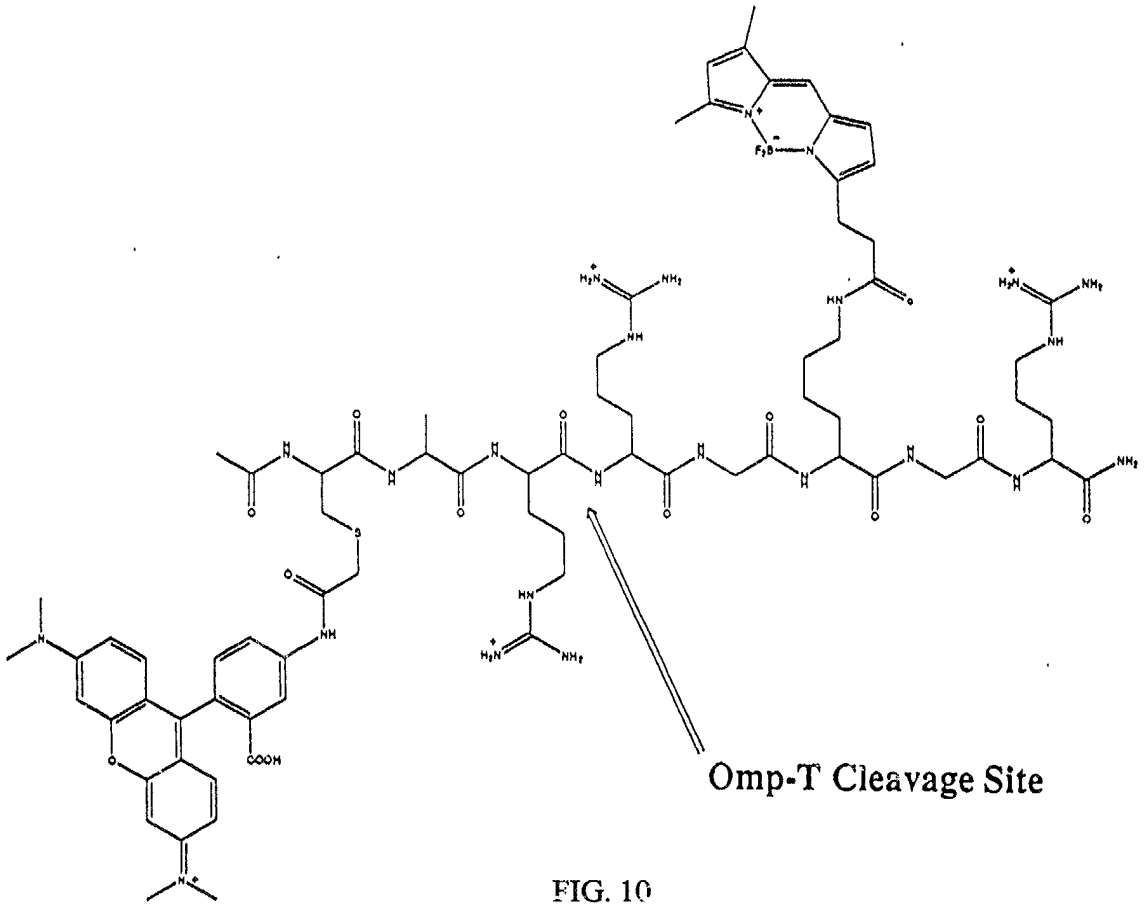


FIG. 10

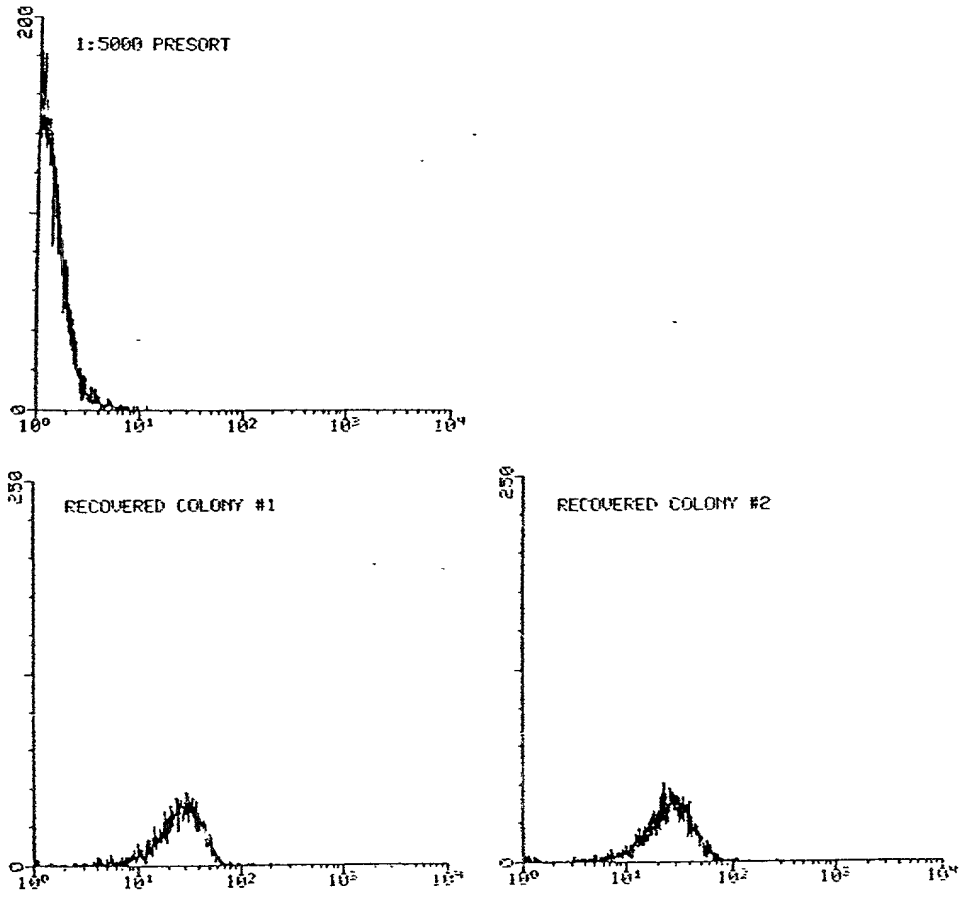

200
1:5000 PRESORT
0
10⁰
10¹
10²
10³
10⁴
250
RECOVERED COLONY #1
0
10⁰
10¹
10²
10³
10⁴
250
RECOVERED COLONY #2
0
10⁰
10¹
10²
10³
10⁴

FIG. 12A-C